

# How to add a new cloud region and some thoughts

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# Agenda

- Status quo: tricky approach to onboard a Cloud Region
- Discrepancy: the assumptions and the constraint
- Workaround in short term
- Solution in long term

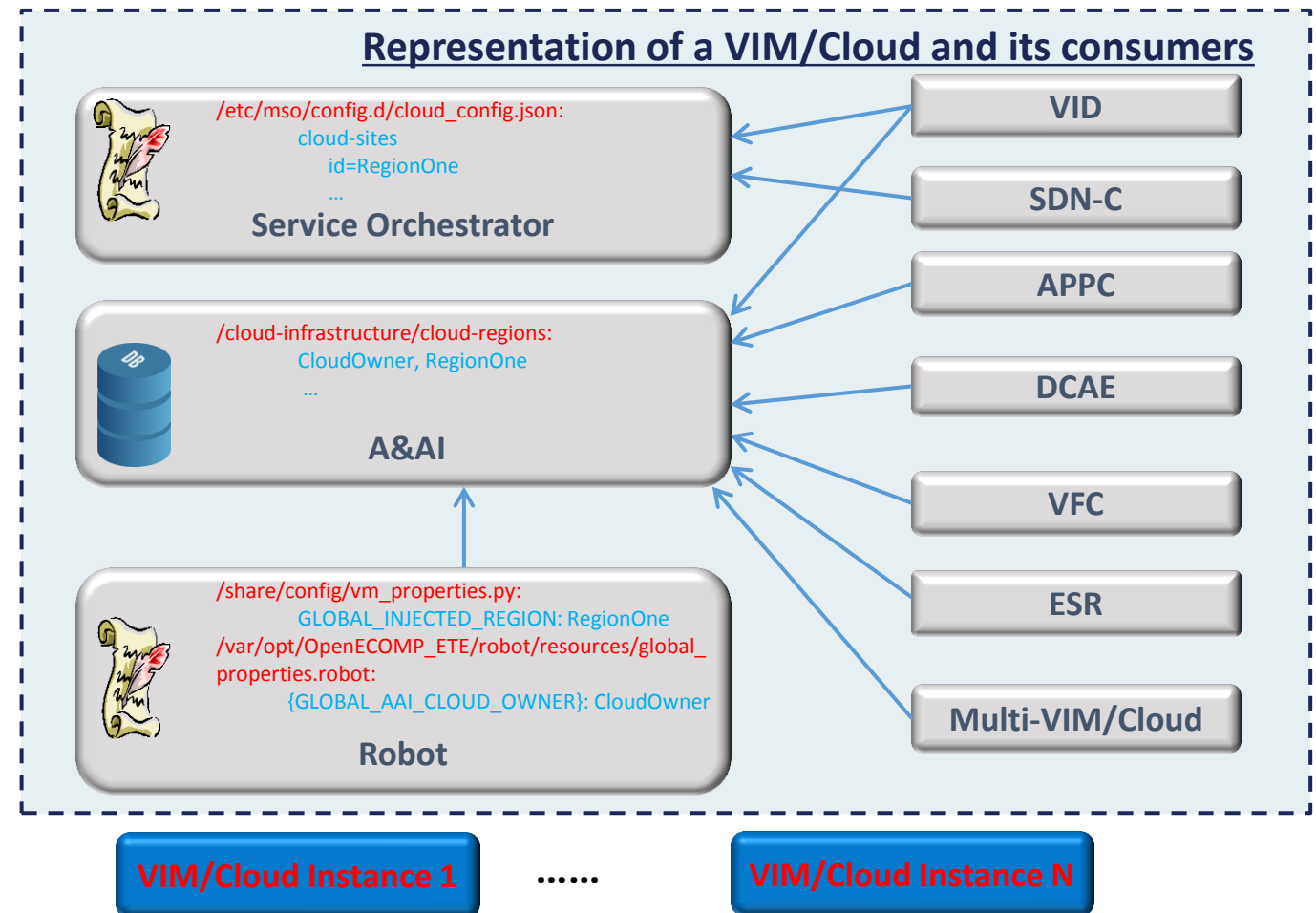
# Status quo: Tricky approach to onboard a Cloud Region

- To add a new Cloud Region for ONAP orchestration

- Add a Cloud Region Object into AAI
- Add a cloud-site in SO
- Launch another Robot VM
  - Provision with new VIM/Cloud information via heat env file
  - It will dedicatedly manage the new cloud region
  - Not sure if it really works since it seems the cloud owner/region id are hard-coded in Robot when it talks to A&AI

- wiki for detail instructions

<https://wiki.onap.org/pages/viewpage.action?pageId=25431491>



# Discrepancy: the assumptions and the constraint

- Robot/VID/SDNC assume
  - assume that “cloud-owner” is hard-coded as “CloudOwner”
  - “cloud-region-id” is used to identify a VIM/Cloud instance so it is expected to be unique globally
- Robot assumes
  - “cloud-region-id” being the “region id” of underlying OpenStack
  - Robot use this cloud-region-id to make request to underlying VIM/Cloud instance.
- Constraint resulted by assumptions above:
  - No more than 1 VIM/Cloud instance with same “region id” is not allowed to be represented in ONAP
  - Cloud Owner cannot be value other than “CloudOwner”.

# Workaround in short term: compose and pass “vim-id”

- **Context:**
  - The API between SO and SDNC does not pass cloud-owner, it only specifies cloud-region-id.
- **The practice of MultiCloud (hence its consumers):**
  - concatenate cloud-owner and cloud-region-id to be one string named “vim-id”
  - the format is: **{vim-id} = {cloud-owner}\_{cloud-region-id}**
  - Decode the {vim-id} into “cloud-owner” and “cloud-region-id” by looking for the first “\_” in the {vim-id}
  - Constraint: {cloud-owner} can be arbitrary string except “\_”
- **Proposed workaround in short term:**
  - VID LCP list:
    - populate the list with list of {vim-id} instead of {cloud-region-id}
    - Pass the {vim-id} to SO instead of {cloud-region-id}
  - SO and SDNC:
    - Accept the {vim-id} as input and decode it into {cloud-owner} and {cloud-region-id}
    - Fetch cloud region information from AAI
    - Keep the API between SO and SDNC intact, but pass {vim-id} instead of {cloud-region-id} to specify the cloud region
  - Robot:
    - Do not use hard-code cloud owner and cloud region id
    - Ask users to specify the cloud region via {cloud-owner} and {cloud-region-id}
    - Fetch the cloud region information from A&AI.
- **This workaround**
  - guarantees the centralized representation of VIM/Cloud instance in ONAP
  - Simplifies the registration of new VIM/Cloud instance into ONAP
  - Minimize the changes to ONAP components

# Solution in long term: specify cloud region by composed key

- Purpose:
  - Get rid of the constraint imposed by th workaround in short term
  - format of {vim-id}: **{cloud-owner} can be arbitrary string except “\_”**
- Principle:
  - Centralized representation of VIM/Cloud instance in A&AI
  - Mandate exposed APIs of all components: Specify the cloud region by composed key: {cloud-owner}, {cloud-region-id}
- Transition approach
  - Keep the API with {vim-id} intact
  - Add new API to support composed key of {cloud-owner}, {cloud-region-id}
  - Depreciate the usage of APIs with {vim-id} in future



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